

CLAIMS

What is claimed is:

1. A data processing apparatus, comprising:
  - (a) a memory containing a stored list of cyclic redundancy check values, each said cyclic redundancy check value corresponding to a data string representing an authorized identifier; and
  - (b) stored programming configured to compare a cyclic redundancy check value for a data string subject to authorization to said stored list of cyclic redundancy check values and determine validity of said cyclic redundancy check value for said data string subject to authorization.
2. The apparatus of claim 1, wherein said data strings representing said authorized identifiers comprise data representing alphanumeric character strings indicative of authorized users.
3. The apparatus of claim 2, wherein said data string subject to authorization comprises a user-entered identification string of alphanumeric characters.
4. The apparatus of claim 3, further comprising a keypad operatively coupled to said memory, said keypad configured for inputting said user-entered identification string of alphanumeric characters.
5. The apparatus of claim 1, wherein said memory further comprises stored programming configured to calculate cyclic redundancy check values for a plurality of said data strings representing said authorized identifiers, and create said stored list of said cyclic redundancy check values for said data strings representing authorized identifiers.
6. The apparatus of claim 1, further comprising:
  - (a) a direct memory access controller operatively coupled to said memory;

- (b) a cyclic redundancy check circuit operatively coupled to said direct memory access controller;
- (c) said direct memory access controller configured to transfer data from said memory as a data stream to said cyclic redundancy check circuit; and
- (d) said cyclic redundancy check circuit configured to calculate a check value for said data stream.

7. The apparatus of claim 6, further comprising:

- (a) stored programming configured to seed said cyclic redundancy check circuit with a selected initial value;
- (b) stored programming configured to set up said direct memory access controller with a source address for said data stream, a destination address for said data stream, and a size for said data stream; and
- (c) stored programming configured to initiate transfer of said data stream by said direct memory access controller from said memory to said cyclic redundancy check circuit.

8. The apparatus of claim 7, further comprising:

- (a) stored programming configured to read said calculated cyclic redundancy check value from said cyclic redundancy check circuit; and
- (b) stored programming configured to store said calculated cyclic redundancy check value in said memory.

9. The apparatus of claim 6, further comprising a display controller operatively coupled to said direct memory access controller, said direct memory access controller configured to transfer display data from said memory as a display data stream to said display controller.

10. The apparatus of claim 9, further comprising:

- (a) stored programming configured to set up said display controller with a display address for said display data stream;

- (b) stored programming configured to set up said direct memory access controller with a source address for said display data stream, a destination address for said display data stream, and a size for said display data stream; and
- (c) stored programming configured to initiate transfer of said display data stream by said direct memory access controller to said display controller.

11. A method for authenticating a data string, comprising:

- (a) creating a list of cyclic redundancy check values each corresponding to a data string representing an authorized identifier;
- (b) comparing a cyclic redundancy check value for a data string subject to authorization to said list of cyclic redundancy check values; and
- (c) determining if said cyclic redundancy check value for said data string subject to authorization is valid.

12. The method of claim 11, further comprising sorting and storing said list of list of cyclic redundancy check values.

13. The method of claim 11, further comprising calculating said cyclic redundancy check value for said a data string subject to authorization.

14. The method of claim 11, wherein said creating said list of cyclic redundancy check values is carried out on a first computer, and said comparing and said determining are carried out on a second computer.

15. The method of claim 14, further comprising transferring said list of cyclic redundancy check values from said first computer to said second computer.

16. The method of claim 11, wherein said comparing comprises searching said list of cyclic redundancy check values for a match with said cyclic redundancy check value for said data string subject to authorization.

17. The method of claim 11, wherein said data strings representing said authorized identifiers comprise data representing alphanumeric character strings indicative of authorized users.

18. The method of claim 16, wherein said data string subject to authorization comprises a user-entered identification string of alphanumeric characters.

19. A method for authentication of a user, comprising:

- (a) creating a list of cyclic redundancy check values on a first computer, each said cyclic redundancy check value in said list corresponding to a character string representing an authorized user;
- (b) inputting a user identification character string;
- (c) calculating a cyclic redundancy check value for said user identification character string;
- (d) comparing said cyclic redundancy check value for said user identification character string to said list of cyclic redundancy check values; and
- (e) determining if said cyclic redundancy check value for said user identification character string represents an authorized character string.

20. The method of claim 19, further comprising sorting and storing said list of list of cyclic redundancy check values.

21. The method of claim 19, wherein said creating said list of cyclic redundancy check values is carried out by a first computer.

22. The method of claim 21, further comprising transferring said list of cyclic redundancy check values to a second computer.

23. The method of claim 22, wherein said inputting said user identification character string, said calculating said cyclic redundancy check value for said user identification character string, said comparing said cyclic redundancy check value for said user identification character string to said list of cyclic redundancy check values, and said determining if said cyclic

redundancy check value for said user identification character string represents an authorized character string, are carried out by said second computer.

24. A user authorization system, comprising:

- (a) means for creating a list of cyclic redundancy check values corresponding to character strings representing authorized users;
- (b) means for comparing a cyclic redundancy check value for a user-entered character string to said list of cyclic redundancy check values; and
- (c) means for determining if said cyclic redundancy check value for said user-entered character string represents an authorized character string.

25. The system of claim 24, further comprising means for sorting and storing said list of list of cyclic redundancy check values.

26. The system of claim 24, further comprising calculating said cyclic redundancy check value for said user-entered character string.

27. The system of claim 24, further comprising means for transferring said list of cyclic redundancy check values from a first computer to a second computer.